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<120> METHOD AND DETECTOR FOR IDENTIFYING SUBTYPES OF HUMAN
PAPILLOMA VIRUSES

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<141> 2001-06-20

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catgcgccat gtggaggagt ttgatttaca gtttattttt caattgtgta gcattacatt 180
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gaattttggt ctacaacctc cccaggagg cacactagaa gatacttata ggtttgtaac 300
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acaatctgtt	gctattacct	gtcaaaagga	tgtgcaccg	gctgaaaata	aggatcccta	360
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<212> DNA

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acaatttata	agacatggcg	agaatatga	attacaattt	atatttcagt	tgtgtaaaat	180
aacacttaca	acagatgtta	tggcttacat	acatttaatg	aatgcctcca	tattggagga	240
ttggaatttt	ggactaacct	tacctccac	tgctagtttg	gaagatgcct	ataggtttat	300
taaaaactct	gctactacct	gtcagcgtaa	cgccctcct	gtgccaaag	aagatccttt	360
tcaaaaattt	aaattttggg	atgtagattt	aaaagaaaa	ttttctattg	atttg	415

<210> 655

<211> 412

<212> DNA

<213> Human papillomavirus subtype 31 (6520-6931/412 bp)

<400> 655

tatttggttg	ggcaatcagt	tatttggttac	tgtggtagat	accacacgta	gtaccaatat	60
gtctgtttgt	gctgcaattg	caaacagtga	tactacattt	aaaagtagta	attttaaaga	120
gtatttaaga	catggtgagg	aatttgattt	acaatttata	tttcagttat	gcaaaataac	180
attatctgca	gacataatga	catatattca	cagtatgaat	cctgctattt	tggaagattg	240
gaattttgga	ttgaccacac	ctccctcagg	ttcttttgag	gatacctata	ggtttgtcac	300
ctcacaggcc	attacatgtc	aaaaaactgc	cccccaaaag	cccaagggaag	atccatttaa	360
agattatgta	ttttgggagg	ttaattttaa	agaaaagttt	tctgcagatt	ta	412

<210> 656

<211> 409

<212> DNA

<213> Human papillomavirus subtype 32 (6837-7245/409 bp)

<400> 656

tatatgttgg	ggtaatcaag	tgttttctaac	tgttgtggat	actaccgta	gtactaacat	60
gactgtgtgt	gctactgtaa	caactgaaga	cacatacaag	tctactaact	ttaaggaata	120
tctacgccat	gcagaggaat	atgatataca	gtttatatatt	caattgtgca	aaattacatt	180
atctgtagag	gttatgtcat	atatccacac	catgaatcct	gacatactag	acgattggaa	240
tgttggtgta	gctccaccgc	cctctgggtac	tttagaagat	agttatagat	ttgtgcagtc	300

tcaggccata cgatgtcaag ctaaggtaac agcacctgaa aaaaaggatc ctttttctga	360
ctattcattt tgggaagtaa atttatctga aaagttttct agtgattta	409

<210> 657

<211> 409

<212> DNA

<213> Human papillomavirus subtype 33 (6559-6967/409 bp)

<400> 657

tatttggttg ggcaatcagg tatttggttac tgtggttagat accactcgca gtactaatat	60
gactttatgc acacaagtaa ctagtgacag tacatataaa aatgaaaatt ttaaagaata	120
tataagacat gttgaagaat atgatctaca gtttggtttt caactatgca aagttacctt	180
aactgcagaa gttatgacat atattcatgc tatgaatcca gatatttttag aagattggca	240
atttggttta acacctctc catctgctag tttacaggat acctataggt ttgttacctc	300
tcaggctatt acgtgtcaaa aaacagtacc tccaaaggaa aaggaagacc ccttaggtaa	360
atatacattt tgggaagtgg atttaaagga aaaattttca gcagattta	409

<210> 658

<211> 412

<212> DNA

<213> Human papillomavirus subtype 35 (6542-6953/412 bp)

<400> 658

tatttggttg agtaaccaat tgtttgttac tgtagttagat acaaccgta gtacaaatat	60
gtctgtgtgt tctgctgtgt cttctagtga cagtacatat aaaaatgaca attttaagga	120
atatttaagg catggtgaag aatatgattt acagtttatt tttcagttat gtaaaataac	180
actaacagca gatgttatga catatatcca tagtatgaac ccgtccattt tagaggattg	240
gaattttggc cttacaccac cgccttctgg taccttagag gacacatac gctatgtaac	300
atcacaggct gtaacttgtc aaaaaccag tgcaccaaaa cctaaagatg atccattaaa	360
aaattatact ttttgggagg ttgatttaaa ggaaaagttt tctgcagact ta	412

<210> 659

<211> 415

<212> DNA

<213> Human papillomavirus subtype 37 (6711-7125/415 bp)

<400> 659

cattttatgg ggtaatcaaa tgtttatcac agttgctgat aatacacgga acacaaactt	60
ttctattagt gtgtctactg acaatggcga agttacagaa tataattctc aaacactcag	120
agaataccta agacatgttg agaatacca gctttcaatt attttacaac tttgtaaagt	180
tcctttaaag gctgagggtt taactcagat aaatgcaatg aattctggta tattggaaga	240
gtggcaatta ggatttgtag ctactccaga taattcagta catgacctt ataggtagat	300
taattcaaag gctaccaagt gtccctgatg agttgttgaa aaagaaaagg aagatccctt	360
tgcaaaatat acattttgga atgtagattt aactgaaaaa ttatcattgg attta	415

<210> 660

<211> 415

<212> DNA

<213> Human papillomavirus subtype 39 (6605-7017/415 bp)

<400> 660

tatatgttgg cataatcaat tatttcttac tgttggtggac actaccgta gtaccaactt	60
tacattatct acctctatag agtcttccat acctcttaca tatgatcctt ctaagtttaa	120

ggaatataacc	aggcacgtgg	aggagtatga	tttacaat	atatttcaac	tgtgtactgt	180
cacattaaca	actgatgta	tgtttatat	tcacactatg	aattcctcta	tattggacaa	240
ttggaat	gctgtagctc	ctccaccatc	tgccagtttg	gtagacactt	acagatacct	300
acagtctgca	gccattacat	gtcaaaagga	tgctccagca	cctgaaaaga	aagatccata	360
tgacgggtcta	aagttttgga	atgttgactt	aagggaaaag	tttagtttgg	aactt	415

<210> 661

<211> 409

<212> DNA

<213> Human papillomavirus subtype 42 (6802-7210/409 bp)

<400> 661

tatatgtttgg	ggaaatcagc	tatttttaac	tgtgggtgat	actaccgta	gtactaacat	60
gactttgtgt	gccactgcaa	catctggtga	tacatataca	gctgctaatt	ttaaggaata	120
tttaagacat	gctgaagaat	atgatgtgca	atztatattt	caattgtgta	aaataacatt	180
aaactgttgaa	gttatgtcat	atatacacia	tatgaatcct	aacatattag	aggagtggaa	240
tgttggtgtt	gcaccaccac	cttcaggaac	tttagaagat	agttataggt	atgtacaatc	300
agaagctatt	cgctgtcagg	ctaaggtaac	aacgccagaa	aaaaaggatc	cttattcaga	360
cttttggttt	tgggaggtaa	atztatctga	aaagttttct	actgattta		409

<210> 662

<211> 415

<212> DNA

<213> Human papillomavirus subtype 43 (21-435/415 bp)

<400> 662

catttgtttt	gggaatcagt	tgtttgttac	agtggtagat	accactcgta	gtacaaactt	60
gacgttatgt	gcctctactg	accctactgt	gccagtgaca	tatgacaatg	caaagtttaa	120
ggaataacttg	cggcatgttg	aagaatatga	tctgcagttt	atatttcaat	tatgcataat	180
aacgctaaac	ccagagggtta	tgacatatat	tcatactatg	gatcccat	tattagagga	240
ctggaat	ggtgtgtccc	cacctgcctc	tgcttctttg	gaagatactt	atcgcttttt	300
gtctaacaag	gccattgcat	gtcaaaaaaa	tgctcccca	aagggaacggg	aggatcccta	360
taaaaagtat	acattttggg	atataaatct	tacagaaaag	ttttctgcac	aactt	415

<210> 663

<211> 415

<212> DNA

<213> Human papillomavirus subtype 44 (6647-7061/415 bp)

<400> 663

tatttggttg	ggaaatcagt	tatttggttac	tgttgtagat	actaccgta	gtacaaacat	60
gacaatatgt	gctgccacta	cacagtcccc	tccgtctaca	tatactagt	aacaatataa	120
gcaatacatg	cgacatgttg	aggagtttga	cttacaat	atgtttcaat	tatgtagtat	180
taccttaacg	gcggaggtta	tggcctatct	tcatactatg	aatgctggtta	ttttagaaca	240
gtggaacttt	gggttgctgc	cgcccccaaa	tggtagctta	gaggacaaat	acagatatgt	300
gcagtcccag	gccattacat	gtcaaaagcc	acccctgaa	aaggcaaagc	aggacccta	360
tgcaaaatta	agtttttggg	aggtgatct	tagagaaaag	ttttctagt	agttg	415

<210> 664

<211> 415

<212> DNA

<213> Human papillomavirus subtype 45 (6582-6996/415 bp)

<400> 664
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aacattatgt gcctctacac aaaatcctgt gccaaagtaca tatgacccta ctaagtttaa 120
gcagtatagt agacatgtgg aggaatatga ttacagttt atttttcagt tgtgcactat 180
tactttaact gcagagggtta tgatcatatat ccatagtagt aatagtagta tattagaaaa 240
ttggaatttt ggtgtccctc caccacctac tacaagtttg gtggatacat atcgttttgt 300
gcaatcagtt gctgttacct gtcaaaaagga tactacacct ccagaaaagc aggatccata 360
tgataaatta aagtttttga ctgttgacct aaaggaaaaa ttttcctcgg atttg 415

<210> 665

<211> 412

<212> DNA

<213> Human papillomavirus subtype 51 (6486-6897/412 bp)

<400> 665
catttgctgg aacaatcagc tttttattac ctgtgttgat actaccagaa gtacaaaattt 60
aactattagg actgccactg ctgcgggttc cccaacattt actccaagta actttaagca 120
atatattagg catggggaag agtatgaatt gcaattttatt ttccaattat gtaaaattac 180
tttaactaca gaggtaatgg cttattttaca cacaatggat cctaccattc ttgaacagtg 240
gaatttttga ttaacattac ctccgtctgc tagtttggag gatgcatata ggtttgttag 300
aaatgcagct actagctgtc aaaaggacac cctccacag gctaagccag atcctttggc 360
caaatataaa ttttgggatg ttgatttaaa ggaacgattt tcttttagatt ta 412

<210> 666

<211> 409

<212> DNA

<213> Human papillomavirus subtype 52 (6623-7031/409 bp)

<400> 666
catatgttgg ggcaatcagt tgtttgtcac agttgtggat accactcgta gcactaacat 60
gactttatgt gctgagggtta aaaaggaaag cacatataaa aatgaaaatt ttaaggaata 120
ccttcgtcat ggcgaggaat ttgatttaca atttattttt caattgtgca aaattacatt 180
aacagctgat gttatgacat acattcataa gatggatgcc actatttttag aggactggca 240
atttggcctt accccaccac cgtctgcac tttggaggac acatacagat ttgtcacttc 300
tactgctata acttgtcaaa aaaacacacc acctaaagga aaggaagatc ctttaaagga 360
ctatatgttt tgggaggtgg atttaaaaga aaagttttct gcagattta 409

<210> 667

<211> 409

<212> DNA

<213> Human papillomavirus subtype 53 (6614-7022/409 bp)

<400> 667
catctgttgg aacaatcagt tatttgtaac tgttgtggat accaccagga atacaaacat 60
gactctttcc gcaaccacac agtctatgtc tacatataat tcaaagcaaa ttaaacagta 120
tgtagacat gcagaggaat atgaattaca atttgtgttt caactatgta aaatatccct 180
gtctgctgag gttatggcct atttacatac tatgaattct accttactgg aagactggaa 240
tataggtttg tcgcctcctg ttgccactag cttagaggac aaatacagat atgtgaaaag 300
tgcagctata acctgtcaaa aggatcagcc cctcctgaa aagcaggacc cactatctaa 360
atataaattt tgggaggtca atttgcaaaa cagtttttct gctgatttg 409

<210> 668

<211> 412

<212> DNA

<213> Human papillomavirus subtype 54 (6561-6972/412 bp)

<400> 668

tatttggttg	ggcaatcagg	tgtttttaac	agttgtagat	accacccgta	gtactaacct	60
aacatttgt	gctacagcat	ccacgcagga	tagctttaat	aattctgact	ttagggagta	120
tattagacat	gtggaggaat	atgatttaca	gtttatat	cagttatgta	ccataaccct	180
tacagcagat	gttatggcct	atattcatgg	aatgaatccc	actattctag	aggactggaa	240
ctttggtata	acccccccag	ctacaagtag	tttggaggac	acatataggt	ttgtacagtc	300
acaggccatt	gcatgtcaaa	agaataatgc	ccctgcaaag	gaaaaggagg	atccttacag	360
taaattta	ttttggactg	ttgaccttaa	ggaacgattt	tcattctgacc	tt	412

<210> 669

<211> 419

<212> DNA

<213> Human papillomavirus subtype 56 (6559-6967/409 bp)

<400> 669

catttgctgg	ggtaatcaat	tatttggttac	tgtagtagat	actactagaa	gtactaacat	60
gactattagt	actgctacag	aacagttaag	taaatatgat	gcacgaaaaa	ttaatcagta	120
ccttagacat	gtggaggaat	atgaattaca	atttggtttt	caattatgca	aaattacttt	180
gtctgcagag	gttatggcat	atttacataa	tatgaatgct	aacctactgg	aggactggaa	240
tattgggtta	tccccgccag	tggccaccag	cctagaagat	aaatatagat	atgttagaag	300
cacagctata	acatgtcaac	gggaacagcc	accaacagaa	aaacaggacc	cattagctaa	360
atataaattt	tgggatgtta	acttacagga	cagtttttct	acagacctgg	atcaatttc	419

<210> 670

<211> 409

<212> DNA

<213> Human papillomavirus subtype 58 (6608-7016/409 bp)

<400> 670

catttgctgg	ggcaatcagt	tatttggttac	cgtggttgat	accactcgta	gcactaatat	60
gacattatgc	actgaagtaa	ctaaggaagg	tacatatata	aatgataatt	ttaaggaata	120
tgtacgtcat	gttgaagaat	atgacttaca	gtttgtttt	cagctttgca	aaattacact	180
aactgcagag	ataatgacat	atatacatat	tatggattcc	aatatttttg	aggactggca	240
atttggttta	acacctcctc	cgtctgccag	tttacaggac	acatatagat	ttgttacctc	300
ccaggctatt	acttgccaaa	aaacagcacc	ccctaaagaa	aaggaagatc	cattaaataa	360
atatactttt	tgggaggtta	acttaaagga	aaagttttct	gcagatcta		409

<210> 671

<211> 415

<212> DNA

<213> Human papillomavirus subtype 59 (6571-6985/415 bp)

<400> 671

tatatgttgg	cacaatcaat	tgtttttaac	agttgtagat	actactcgca	gcaccaatct	60
ttctgtgtgt	gcttctacta	citcttctat	tcctaata	tacacacct	ccagttttta	120
agaatatgcc	agacatgtgg	aggaatttga	tttgcagttt	atatttcaac	tgtgtaaaa	180
aacattaact	acagaggtta	tgtcatacat	tcataatatg	aataccact	ttttggagga	240
ttggaatttt	ggtgttacac	cacctcctac	tgctagttta	gttgacacat	accgttttgt	300
tcaatctgct	gctgttaact	gtcaaaaagga	caccgcaccg	ccagttaaac	aggacctta	360

tgacaaacta aagttttggc ctgtagatct taaggaaagg ttttctgcag atctt

415

<210> 672

<211> 415

<212> DNA

<213> Human papillomavirus subtype 61 (6732-7146/415 bp)

<400> 672

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aaccatttgt	actgctacat	ccccccctgt	atctgaatat	aaagccacaa	gctttaggga	120
atatttgcgc	catacagagg	agtttgattt	gcaattttatt	tttcagttat	gtaaaataca	180
tttaaccctt	gaaattatgg	cctacctaca	taatatgaat	aaggccttgt	tggtgactg	240
gaactttggt	gtggtaccac	cacctctac	cagtttagaa	gacacatata	ggtttttgca	300
gtccagagct	attacatgtc	agaaggggtg	tgctgccccg	ccgcccaagg	aggatcgcta	360
tgccaagtta	tccttttgga	ctgttgattt	acgagacaag	ttttccactg	atttg	415

<210> 673

<211> 409

<212> DNA

<213> Human papillomavirus subtype 62 (21-429/409 bp)

<400> 673

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tttgcgacac	acggaggaat	ttgatttgca	atttatattt	caattgtgca	aaatacagtt	180
aacccccgaa	attatggcct	acctgcataa	tatgaacaag	gaccttttgg	atgactggaa	240
ctttgggggt	ttacctcccc	cttccactag	tttagatgag	acatatcact	atttcgagtc	300
tcgggctatt	acatgtcaaa	gggggctgcc	taccctgccc	aagggtggacc	cgtatgcgca	360
aatgacattt	tggactgtgg	atcttaagga	caagttgtct	actgatttg		409

<210> 674

<211> 409

<212> DNA

<213> Human papillomavirus subtype 66 (6609-7017/409 bp)

<400> 674

catatgctgg	ggtaatcagg	tatttgttac	tgttgtggat	actaccagaa	gcaccaacat	60
gactattaat	gcagctaaaa	gcacattaac	taaatatgat	gcccgtgaaa	tcaatcaata	120
ccttcgccat	gtggaggaat	atgaactaca	gtttggtgtt	caactttgta	aaataacctt	180
aactgcagaa	gttatggcat	atttgcataa	tatgaataat	actttattag	acgattggaa	240
tattggctta	tccccaccag	ttgcaactag	cttagaggat	aaatataggt	atattaaaaa	300
cacagctatt	acatgtcaga	gggaacagcc	ccctgcagaa	aagcaggatc	ccctggctaa	360
atataagttt	tgggaagtta	atttacagga	cagcttttct	gcagacctg		409

<210> 675

<211> 409

<212> DNA

<213> Human papillomavirus subtype 67 (6584-6992/409 bp)

<400> 675

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gactttatgt	tctgaggaaa	aatcagaggc	tacatacaaa	aatgaaaact	ttaaggaata	120
cccttagacat	gtggaagaat	atgatttgca	gtttatatatt	cagctgtgca	aaatatccct	180

tactgcaaat	ggtatgcaat	acatacacac	catgaatcca	gatatatag	aggactggca	240
atttggcctt	acaccacctc	cttcaggtaa	tttacaggac	acatatagat	ttgttacctc	300
gcaggctatt	acctgtcaaa	aaacatcccc	tccaacagca	aaggaagatc	ctcttaaaaa	360
gtacagtttt	tgggaaatca	atttaaagga	aaaattttct	gcagattta		409

<210> 676

<211> 415

<212> DNA

<213> Human papillomavirus subtype 68 (2582-2996/415 by)

<400> 676

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tactttgtct	actactactg	aatcagctgt	accaaattatt	tatgatccta	ataaatttaa	120
ggaatatatt	aggcatgttg	aggaatatga	tttgcaat	atatttcagt	tgtgtactat	180
aacattgtcc	actgatgtaa	tgtcctatat	acatactatg	aatcctgcta	ttttggatga	240
ttggaat	ggtgttgccc	ctccaccatc	tgctagtctt	gtagatacat	accgctatct	300
gcaatcagca	gcaattacat	gtcaaaaaga	cgccctgca	cctactaaaa	aggatccata	360
tgatggccta	aacttttggg	atgtaaat	aaaggaaaag	tttagttctg	aactg	415

<210> 677

<211> 415

<212> DNA

<213> Human papillomavirus subtype 69 (6509-6923/415 bp)

<400> 677

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cactattagt	actgtatctg	cacaatctgc	atctgccact	tttaaaccat	cagattataa	120
gcagtttata	aggcatgggtg	aggaatatga	attacagttt	atatttcaat	tgtgtaaaaat	180
tactcttacc	actgatgtaa	tggcctatat	ccatacaatg	aattctacta	ttttggaaaa	240
ttggaat	ggccttacct	tgccctctac	tgctagtttg	gaagatgcat	ataggtttat	300
taaaaattca	gctactacat	gtcaacgcga	tgccctgca	cagccaagg	aggatccatt	360
tagtaaatta	aaattttggg	acgttgatct	taaagaaaag	ttttctattg	attta	415

<210> 678

<211> 409

<212> DNA

<213> Human papillomavirus subtype 6 (6743-7151/409 bp)

<400> 678

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gacattatgt	gcatccgtaa	ctacatcttc	cacatacacc	aattctgatt	ataaagagta	120
catgcgtcat	gtggaagagt	atgatttaca	atttattttt	caattatgta	gcattacatt	180
gtctgctgaa	gtaatggcct	atattcacac	aatgaatccc	tctgttttgg	aagactggaa	240
ctttgggtta	tcgcctcccc	caaatggtac	attagaagat	acctataggt	atgtgcagtc	300
acaggccatt	acctgtcaaa	agccactcc	tgaaaaggaa	aagccagatc	cctataagaa	360
ccttagtttt	tgggagggta	atttaaaaaga	aaagttttct	agtgaattg		409

<210> 679

<211> 415

<212> DNA

<213> Human papillomavirus subtype 70 (6549-6963/415 bp)

<400> 679

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tacattgtct	gctgcaccg	aaacggccat	acctgctgta	tatagcccta	caaagtttaa	120
ggaatatact	aggcatgtgg	aggaatatga	tttacaattt	atatttcaat	tgtgtactat	180
cacattaact	gctgacgtta	tggcctacat	ccatactatg	aatcctgcaa	ttttggacaa	240
ttggaatata	ggagttaccc	ctccaccatc	tgcaagcttg	gtggacacgt	ataggtattt	300
acaatcagca	gctatagcat	gtcaaaagga	tgctcctaca	cctgaaaaaa	aggatcccta	360
tgacgattta	aaattttgga	atgttgattt	aaaggaaaag	tttagtacag	aacta	415

<210> 680

<211> 415

<212> DNA

<213> Human papillomavirus subtype 72 (6758-7172/415 bp)

<400> 680

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aactatattgt	actgccacag	cgctcctctgt	atcagaatat	acagcttcta	attttcgtga	120
gtatcttcgc	cacactgagg	aatttgattt	gcagtttata	tttcaactgt	gtaaaattca	180
cttaactcct	gaaattatgg	cctacttgca	caatatgaat	aaggccttat	tggatgactg	240
gaattttggt	gtggtgcctc	ctccttctac	cagtttggat	gatacctata	ggtttttgca	300
gtctcgtgcc	attacctgtc	aaaagggggc	tgccaccctc	cctcctaaag	aagatccata	360
tgctaactta	tccttttgga	ctgtggattt	aaaggacaaa	ttttccactg	acttg	415

<210> 681

<211> 415

<212> DNA

<213> Human papillomavirus subtype 74 (1613-2027/415 bp)

<400> 681

tatttggttg	ggtaatcaat	tatttgttac	agttgtggat	accacacgca	gtactaacat	60
gactgtgtgt	gctcctacct	cacaatcgcc	ttctgctaca	tataatagtt	cagactacaa	120
acaatacatg	cgacatgtgg	aggaatttga	tttgcaattt	atttttcaat	tatgtagtat	180
taagttaact	gctgaggtta	tggcctatat	tcatactatg	aatcctacag	ttttagaaga	240
gtggaacttt	gggctaacgc	ctccccccaa	tggtacttta	gaagacacct	acagatatgt	300
gcagtccag	gctattacat	gtcaaaaacc	tacgcctgat	aaagcaaagc	ccaatcccta	360
tgcaaattta	agtttttgga	aagttaatct	taaggaaaag	ttttctagt	aatta	415

<210> 682

<211> 415

<212> DNA

<213> Human papillomavirus subtype 82 (6536-6950/415 bp)

<400> 682

catttgctgg	aataatcagc	tttttattac	ttgtgttgac	actactaaaa	gtaccaattt	60
aaccattagc	actgctgtta	ctccatctgt	tgcacaaaca	tttactccag	caaactttaa	120
gcagtacatt	aggcatgggg	aagaatatga	attgcaattt	atatttcaat	tgtgtaaaat	180
cactttaact	actgaaatta	tggcttacct	gcacaccatg	gattctacaa	ttttagaaca	240
gtggaatttt	ggattaacat	tgccccctc	cgctagtttg	gaggatgcct	atcgatttgt	300
aaaaaatgca	gcaacatcct	gtcacaagga	cagtcctcca	caggctaaag	aagacccttt	360
ggcaaaatat	aaattttgga	atgtagacct	taaggaaacgc	ttttctttgg	atttg	415

<210> 683

<211> 412

<212> DNA

<213> Human papillomavirus subtype CP8061 (21-432/412 bp)

<400> 683

catttggttg	ggcaatcagc	tttttgaac	agttgtggac	acatcacgta	gtacaaatat	60
gtccatctgt	gctacaaaa	ctgttgagtc	tacatataaa	gcctctagtt	tcattggaata	120
tttgagacat	ggagaagaat	ttgatttgca	atztatattt	caactatgtg	ttattaattt	180
aacagctgaa	attatggcct	acttacatcg	catggatgct	acattactgg	aggactggaa	240
tttttggttc	ttaccacctc	ctactgctag	tcttggtgat	acctaccgct	ttttacagtc	300
tcaggccata	acctgtcaga	aaaacagtc	tcctctcgca	gaaaaaaagg	accctatgc	360
agatcttaca	ttttgggagg	tggatttaaa	ggagcggttt	tcactagaat	tg	412

<210> 684

<211> 412

<212> DNA

<213> Human papillomavirus subtype CP8304 (21-432/412 bp)

<400> 684

tatttggttg	tttaatgaaa	tggttggtac	agtgggtgat	actaccagaa	gcaccaattt	60
tactatttgc	acagctacat	ctgctgctgc	agaatacaag	gcctctaact	ttaaggaatt	120
tctgcgccat	acagaggaat	atgatttgca	gtttattttc	caattatgta	aaatacagtt	180
aacaccagaa	attatggcct	acttacataa	tatgaacaag	gcactggttg	atgattggaa	240
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tcgggccatt	acctgtcaaa	agggtgctgc	tgccctgcg	cccaaagagg	acccttatgc	360
cgacatgtca	ttttggacag	ttgaccttaa	ggacaagtgt	tctactgatt	tg	412

<210> 685

<211> 350

<212> DNA

<213> Human papillomavirus subtype L1AE5 (11-360/350 bp)

<400> 685

ggcacaacca	attatttata	actgtggtag	acacaacacg	tagtaccaat	cttacottat	60
ctactgcaac	tactaatcca	gttccatcta	tatatgaacc	ttctaaattt	aaggaatata	120
cacgccatgt	agaggaatat	gatttacaat	ttatatattca	attgtgtaaa	attacactta	180
ctactgatgt	tatgtcttat	atacataaca	tggatcctac	tatttttagat	agttggaatt	240
ttggtggttag	tcctcccca	tctgctagct	tagtagatac	atatagggtt	ttacagtoat	300
ctgccattac	atgtcagaag	gatgtggttg	ttccacaaaa	aaaggatcca		350

<210> 686

<211> 415

<212> DNA

<213> Human papillomavirus subtype MM4 (21-435/415 bp)

<400> 686

catttgctgg	aataatcagc	tttttattac	ttgtgttgac	actactagaa	gtaccaattt	60
aaccattagc	actgctgta	ctcaatctgt	tgcacaaaca	tttactccag	caaactttaa	120
gcaatacatt	aggcatgggg	aagaatatga	attgcaattt	atatttcaat	tgtgtaaaat	180
cactttaact	actgaaatta	tggcttacct	gcacaccatg	gattctacaa	ttttagaaca	240
gtggaatttt	ggattaacct	tgccccctc	agctagtttg	gaggatgcct	atcgatttgt	300
aaaaaatgca	gcaacatcct	gtcacaagga	cagtcctcca	caggctaaac	aagacctttt	360
ggcaaaatat	aaattttgga	atgtagacct	taaggaaacgc	ttttctttgg	atttg	415

<210> 687

<211> 412

<212> DNA

<213> Human papillomavirus subtype MM7 (21-432/412 bp)

<400> 687

catttggttg	tttaatgagt	tatttggttac	agttgtagat	actacccgca	gtaccaatat	60
tactatttca	gctgctgcta	cacaggctaa	tgaatacaca	gcctctaact	ttaaggaata	120
cctccgccac	accgaggaat	atgacttaca	ggttatatg	caactttgca	aaatacatct	180
tacccttgaa	attatggcat	acctacatag	tatgaatgaa	catttattgg	atgagtggaa	240
ttttggcgtg	ttaccacctc	cttccaccag	ccttgatgat	acctatcgct	atctgcagtc	300
ccgtgctatt	acctgccaaa	agggtccttc	cgcccttgcc	cctaaaaagg	atccttatga	360
tggccttgta	ttttgggagg	ttgatttaaa	ggacaaacta	tccacagatt	tg	412

<210> 688

<211> 412

<212> DNA

<213> Human papillomavirus subtype MM8 (21-432/412 bp)

<400> 688

tatatgctgg	tttaatcaat	tgtttgctac	ggtggtggat	accacccgca	gcaccaattt	60
tactattagt	gctgctacca	acaccgaatc	agaatataaa	cctaccaatt	ttaaggaata	120
cctaagacat	gtggaggaat	atgatttgca	gtttatatc	cagttgtgta	agggtccgtct	180
gactccagag	gtcatgtcct	atttacatac	tatgaatgac	tccttattag	atgagtggaa	240
ttttggtggt	gtgccccctc	cctccacaag	tttagatgat	acctataggt	acttgcagtc	300
tcgcgccatt	acttgccaaa	agggggccgc	cgccgccaaag	cctaaggaag	atccttatgc	360
tggcatgtcc	ttttgggatg	tagatttaaa	ggacaagttt	tctactgatt	tg	412